

REMARKS

In an Office Action dated March 5, 2004, claims 1-8 and 10-20 of the claims under consideration in the subject patent application were rejected. Claim 9 of the claims under consideration in the subject patent application was objected to. By amendment above, claims 1, 4, 9 and 16-20 have been rewritten and new claims 47-48 have been added. Support for the amendments in claim 4 can be found on page 3 of the specification. Support for the amendments in claim 9 can be found in original claims 1, 5 and 6. Support for the amendments in claims 16-20 can be found on page 6 of the specification and original claims 16-20. Support for the new claims 47 and 48 can be found in original claim 20.

Reconsideration of this application and allowance of the claims is respectfully requested in view of the foregoing amendments and the following remarks.

The Examiner has objected to claim 10 because the term "or" should be added before NR¹ in the string of possible substituents Y in the formula. Applicants submit that the string of substituents includes all six substituents listed in claim 10 and that before the last substituent the term "or" is written. Applicants therefore submit that there is no typographical error in claim 10. Withdrawal of the objection is respectfully submitted.

The Examiner has rejected claims 4, and 16-20 under 35 U.S.C. §112, second paragraph, as being indefinite. According to the Examiner claim 4 is vague because it is unclear what C1 is in line 7 where it states that R denotes (CH₂)_n-C1. Applicants submit that C1 should be Cl (Chloride) as is disclosed in the specification. Applicants have amended claim 4 to correct this typographical error. Therefore, claim 4 in which R denotes (CH₂)_n-Cl is clearly defined and supported by the specification. Withdrawal of the rejection is respectfully requested. and will

correct accordingly.

In addition, the Examiner rejected claims 16-20 as being indefinite. According to the Examiner these claims provide for a solid phase but the claims do not set forth any steps involved in the process, and it is thus unclear what process is intended to be encompassed. Claims 16-20 are further rejected because the Examiner asserts that the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process.

In response to the Examiner's rejection applicants have amended claims 16-20 to rewrite these claims from use claims to method claims, reciting positive steps involved in the claimed process. Applicants submits that these claims now clearly define the process intended to be encompassed by claims 16-20. New claims 47-48 have been added, which are directed to the particular uses as claimed in claim 20 before this amendment. Therefore, applicants submit that claims 16-20 are more clearly defined as the use claims have been rewritten to method claims reciting positive steps in the process of the invention. Accordingly, withdrawal of the rejection is respectfully requested.

The Examiner has also rejected claims 1, 3-8, and 10-20 in the pending application as anticipated by Guo et al (Nucleic Acids Research 1994, Vol 22, No 24, pp5456-5465). According to the Examiner, Guo et al discloses direct fluorescence analysis of genetic polymorphisms by hybridization with oligonucleotide arrays on glass supports. The Examiner correctly asserts that the glass derivatization is performed in steps which are the same as in the presently claimed invention. The Examiner asserts that the derivatization of the glass surface is with aminopropyltrimethoxysilane to give an amino derivatized surface. Further, according to

the Examiner, the amino groups were coupled with excess p-phenylenediisothiocyanate to convert the amino groups to amino-reactive phenylisothiocyanate groups. Subsequently, according to the Examiner, 5' amino-modified oligonucleotides are coupled to these amino-reactive phenylisothiocyanate groups to yield surface bound oligonucleotides.

Applicants submit that claim 1, as amended, and dependent claims thereon are not directed to isocyanates or isothiocyanates as surface reactive groups on a glass surface. Thus, the solid phase as prepared by the claimed invention as amended differs from the solid phase as taught by Guo et al. Therefore, applicants submit that because the surface reactive groups on a glass surface in the current invention are clearly different from those disclosed in Guo et al, claims 1, 3-8, and 10-20 are not anticipated by Guo et al. Accordingly, withdrawal of the rejection is respectfully requested.

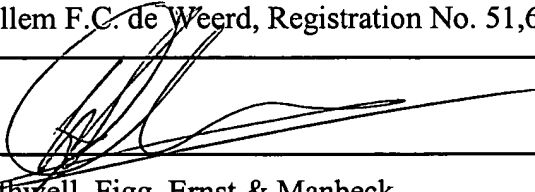
The Examiner has rejected claims 1-8 and 10-20 as anticipated by Varma (US 5,622,826). The Examiner asserts that Varma discloses methods for immobilizing molecules on surfaces of platinum. According to the Examiner the method uses an isocyanate or isothiocyanate molecule which is reacted with the platinum to produce immobilized reactive moieties and these moieties are reacted with the molecule to be immobilized. Further, the Examiner states that the platinum surface is reacted with a diisothiocyanate such as 1,4-phenylene diisocyanate and that it is also disclosed that glass surfaces can be used. The Examiner also asserted that the disclosure of Varma uses two different types of oligonucleotides as probes in order to determine whether hybridization was occurring specifically targeting DNAs having complementary nucleotide sequences. The Examiner states that in certain positions on the surface, probes were attached that had nucleotide sequences exactly complementary to targets and at other positions the probes

had a mismatch. This the Examiner asserts is inclusive of claim 14.

In response to the Examiner's assertions the presently claimed invention, as amended, is different from Varma. The claim 1, as amended, is not directed to isocyanate and isothiocyanate groups as surface reactive groups on a glass surface. In Varma the solid phase support is limited to those supports wherein the glass or platinum surface is prepared with either isocyanate or isothiocyanate groups. The presently claimed invention however prepares a glass surface with groups other than isocyanate or isothiocyanate to immobilize a biopolymer. Therefore, applicants submit the presently claimed invention in claims 1-8, and 10-20 is not anticipated by Varma. Accordingly, withdrawal of the rejection is respectfully requested.

The Examiner also objected claim 9 as being dependent upon a rejected base claim, but has indicated claim 9 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have incorporated all the limitations of the base claim (claim 1) and intervening claims (claims 5 and 6) into claim 9. Therefore, claim 9 is allowable in light of the Examiner's statement.

Applicants submit that the present application is now in condition for allowance. Reconsideration and favorable action are earnestly requested.

RESPECTFULLY SUBMITTED,					
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